



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/685,779

10/15/2003

Orville C. Kocher II

950222.90421

7261

26710

7590

11/02/2006

QUARLES & BRADY LLP
411 E. WISCONSIN AVENUE
SUITE 2040
MILWAUKEE, WI 53202-4497

EXAMINER

JOHNSON, VICKY A

ART UNIT

PAPER NUMBER

3682

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/685,779

Applicant(s)

KOCHER, ORVILLE C.

Examiner

Vicky A. Johnson

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 18-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I claims 1-17 in the reply filed on October 18, 2006 is acknowledged. Claims 18-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 25 and 27. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 3682

4. Claims 5, 6, and 8-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation "the bearing" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "the rotational shaft" in lines 2 and 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 10 recites the limitation "the input shaft" in line 10. There is insufficient antecedent basis for this limitation in the claim.

Claim 13 recites the limitation "the gear train" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 14 recites the limitation "the gear train" in line 2. There is insufficient antecedent basis for this limitation in the claim.

In claim 17 it is unclear if the "a channel" in line 2 is the same or a different channel than the channel positively recited in claim 10. It is also unclear how many channels are being claimed in lines 2 and 3.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3, 5, 6, 8 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Wick et al (US 3,647,024).

Wick et al disclose a gearbox, comprising: a sealed housing (14) for receiving a lubricant; a first rotational shaft (16) provided in the housing; a gear drive (34) coupled to the rotational shaft to rotate the shaft; a first bearing (20) journaling the first rotational shaft at a distance above the gear drive (see Fig 1); and at least one channel (58) provided in the housing and extending to the bearing, a bottom of the channel being positioned above and adjacent the gear drive to receive lubricating fluid rotated by the gear drive (see Fig 1); wherein, as the gear rotates, rotating lubricants pass into the channel and are carried by momentum to the first bearing for lubrication (col. 2 lines 50-65).

Re claim 2, a recess (54) provided at the bottom end of the channel, the recess being enlarged relative to the channel to capture rotating fluids (see Fig 1).

Re claim 3, a shoulder (18) extending radially inward toward the rotational shaft from a wall of the housing.

Re claim 5, a second bearing (22) positioned on the first rotational shaft nearer the gear drive than the first bearing (see Fig 1), the channel extending past the second bearing to the first bearing (see Fig 1).

Re claim 6, a second rotational shaft (30) provided in the housing, the second rotational shaft being positioned at an angle to the rotational shaft and coupled to the rotational shaft through the gear drive (see Fig 1).

Re claim 8, the housing comprises an upper section and a lower section, the upper section enclosing the first rotational shaft and the lower section enclosing the second rotational shaft (see Fig 1).

9. The gearbox as defined in claim 8, wherein the upper section is a split case comprising a first and a second half.

7. Claims 1, 3, and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Orr et al (US 2,654, 441).

Orr et al disclose a gearbox, comprising: a sealed housing (14) for receiving a lubricant (25); a first rotational shaft (10) provided in the housing; a gear drive (13) coupled to the rotational shaft to rotate the shaft; a first bearing (12) journaling the first rotational shaft at a distance above the gear drive (see Fig 1); and at least one channel (23) provided in the housing and extending to the bearing, a bottom of the channel being positioned above and adjacent the gear drive to receive lubricating fluid rotated by the gear drive (col. 3 lines 27-30); wherein, as the gear rotates, rotating lubricants pass into the channel and are carried by momentum to the first bearing for lubrication (col. 3 lines 27-30).

Re claim 3, a shoulder (22) extending radially inward toward the rotational shaft from a wall of the housing (see Fig 1).

Re claim 4, wherein the distance between the inner diameter of the shoulder and the outer diameter of the rotational shaft is selected to be sufficiently small that the viscosity of the lubricant restricts the opening between the inner diameter of the

Art Unit: 3682

shoulder and the outer diameter of the rotational shaft to provide a resistance to the flow of fluid (col. 3 lines 15-26).

8. Claims 1, 7, and 10-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Taniyama et al (US 4,144,950).

Taniyama et al disclose a gearbox, comprising: a sealed housing (21) for receiving a lubricant; a first rotational shaft (30) provided in the housing; a gear drive (30b) coupled to the rotational shaft to rotate the shaft; a first bearing (41) journaling the first rotational shaft at a distance above the gear drive (see Fig 1); and at least one channel (22) provided in the housing and extending to the bearing, a bottom of the channel being positioned above and adjacent the gear drive to receive lubricating fluid rotated by the gear drive (see Fig 1); wherein, as the gear rotates, rotating lubricants pass into the channel and are carried by momentum to the first bearing for lubrication (col. 4 lines 11-42).

Re claim 7, wherein the gearbox comprises a plurality of channels (22 and 23), each of the channels being spaced substantially equidistantly around a circumference of the housing surrounding the first rotational shaft (see Fig 3).

Re claim 10, a gearbox, comprising: a sealed housing (21); a substantially vertical shaft (30) provided in the housing; an upper bearing (41) and a lower bearing (42) journaling the shaft; a gear drive (30b) coupled to the shaft; a lubricant provided in the housing for lubricating the gear drive (col. 3 lines 17-47); a shoulder (36) positioned between the upper and lower bearings and extending radially inward from an internal diameter of the

Art Unit: 3682

housing toward the shaft (see Fig 1), the internal diameter of the shoulder being selected such that the viscosity of the lubricant restricts an opening between the shoulder and the input shaft (see Fig 1); and a channel (22) provided in the housing extending from the gear drive past the first bearing and the shoulder to the upper bearing; wherein as the gear drive rotates (see Fig 1), the rotation causes the lubricant to be circulated through the channel to lubricate the upper bearing (see Fig 1).

Re claim 11, a second shaft (10) provided in the housing, the second shaft being positioned at an angle of substantially ninety degrees to the substantially vertical shaft (see Fig 1).

Re claim 12, a plurality of channels (22 and 23).

Re claim 13, a recess (R3) having a diameter greater than a diameter of the channel is provided at an end of the at least one channel adjacent the gear drive (see Fig 1).

Re claim 14, the channel angles from a wide point adjacent the gear train to a narrow point adjacent the upper bearing (see Fig 1).

Re claim 15, the housing comprises an upper portion and a lower portion (see Fig 1).

Re claim 16, the channel is provided in the upper portion (see Fig 1).


Re claim 17, the upper portion includes a first half and a second half (see Fig 1), each of the first and second halves including a channel, a first half channel, and a second half channel (see Fig 1).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vicky A. Johnson whose telephone number is (571) 272-7106. The examiner can normally be reached on Monday-Friday (7:00a-3:30p).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6217. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Vicky A. Johnson
Primary Examiner
Art Unit 3682